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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,918	06/29/2006	Coen Adrianus Verschuren	NL040015	2332
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EXAMINER BERNARDI, BRENDA C				
ART UNIT 2627		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/596,918

**Applicant(s)**

VERSCHUREN ET AL.

**Examiner**

BRENDA BERNARDI

**Art Unit**

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/29/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The abstract is objected to. The word "must" in the last sentence should read "much".

Correction is required.

### ***Claim Objections***

2. Claims 3 and 10 are objected to because it is unclear as to what claim these two claims are dependent upon.

### ***Claim Rejections - 35 USC § 112***

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said predetermined average runlength" in paragraph b). There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

Art Unit: 2627

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hurst, Jr., US Patent 5,631, 887.

Regarding claim 1, Hurst '887 discloses a method comprising monitoring an average detected runlength of a read pulse pattern (column 15, lines 14 through 52 and column 16, lines 1 and 2); generating an error signal based on a comparison of the result of said monitoring step with said predetermined average runlength (column 16, lines 3 through 38); and controlling said at least one readout parameter on the basis of said error signal (column 16, lines 38 through 43).

Regarding claim 2, Hurst '887 discloses at least one readout parameter comprises at least one of the following quantities; said radiation power and the strength of an external magnetic field applied during said reading operation (column 15, line 14 through column 16, line 43).

Regarding claim 8, Hurst '887 discloses an apparatus comprising monitoring means for monitoring an average detected runlength (column 15, lines 14 through 52 and column 16, lines 1 and 2); generating means for generating an error signal based on a comparison of the result of said monitoring step with said predetermined average runlength (column 16, lines 3 through 38); and control means for controlling said at least one readout parameter on the basis of said error signal (column 16, lines 38 through 43).

Regarding claim 9, Hurst '887 discloses an apparatus wherein at least one readout parameter comprises at least one of the following quantities: said radiation power and the strength of an external magnetic field applied during said reading operation (column 15, line 14 through column 16, line 43).

6. Claims 5-7, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Heegard, C D, et al, "Variable-Length State Splitting with Applications to Average Runlength-Constrained (ARC) Codes", IEEE Transactions on Information Theory, vol. 37, no. 3, 1 May 1991.

Regarding claim 5, Heegard, 1 May 1991, discloses a method comprising The step of applying a code constraint to said recording data, said code constraint being selected so as to keep the accumulated deviation from a predetermined average runlength of at least one of the following quantities: mark runlengths and space runlengths in said storage layer within a predetermined range (paragraph II.B).

Regarding claim 6, Heegard, 1 May 1991, discloses a method wherein said code constraint is applied to said recording data such that only the accumulated deviation of runlengths of mark regions is kept within said predetermined range (paragraph II.B).

Regarding claim 7, Heegard, 1 May 1991, discloses a method wherein said applying step comprises a decision on the allowability of a new runlength, said history being characterized by a resulting state in a state-transition diagram for the code constraint that correspond to the value of the accumulated deviation value realized thus far (paragraph II.B).

Regarding claim 11, Heegard, 1 May 1991, discloses an apparatus comprising a storage layer and a readout layer, said apparatus comprising code generating means for applying a code constraint to said recording data, said code constraint being selected so as to keep the accumulated deviation from a predetermined average runlength of at least one of the following quantities: mark runlengths and space runlengths in said storage layer within a predetermined range (paragraph II.B).

Regarding claim 12, Heegard, 1 May 1991, discloses an apparatus wherein said code generating means comprises a finite state machine (paragraph II.B).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst, Jr., US Patent 5,631,887 as applied to claim 1 above in view of Verschuren, US Patent 6,809,994.

Regarding claim 3, Hurst discloses all the limitation of the instant claimed invention (see the rejection applied in claim 1 above) except for the use of the pulse pattern corresponds to the user data recorded on said recording medium.

Verschuren '994 discloses a method wherein said pulse pattern corresponds to the user data recorded on said recording medium (column 2, lines 63-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hurst '887 by providing the arrangement as taught by Verschuren '994 in order to provide its desirable readout parameter control feature which is increased data accuracy, flexibility and speed as is well known in the art.

Regarding claim 4, Hurst discloses all the limitation of the instant claimed invention (see the rejection applied in claim 1 above). However, Hurst does not but Verschuren '994 discloses a method wherein said comparison is performed on the basis of a look-up table linking the value of said error signal to a corresponding value of said comparison result (column 3, lines 1 and 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hurst '887 by employing the comparison is performed on the basis of a look-up table linking the value of said error signal to a corresponding value of said comparison result as taught by Verschuren '994 in order to generate the error signal with more accuracy as based on data value in lookup table.

9. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst, Jr., US Patent 5,631, 887 as applied to claim 8 above in view of Verschuren, US Patent 6,809,994.

Regarding Claim 10, Hurst discloses all the limitation of the instant claimed invention (see the rejection applied in claim 8 or claim 9 above). However, Hurst does not but Verschuren '994 discloses an apparatus comprising storing means for storing information that defines a relationship between a value of said error signal and a value of the result of said comparison (column 4, lines 59 through 63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hurst '887 by employing the comparison of the analysis result with a reference data stored in non-volatile memory as disclosed by Verschuren '994 in order to more accurately control the radiation power and/or field strength.

Regarding Claim 13, Hurst discloses all the limitation of the instant claimed invention (see the rejection applied in claim 8 or 9 or 10 or 11 or 12 above). However, Hurst does not but Verschuren '994 discloses wherein said apparatus is a disc player for MAMMOS discs (column 1, lines 9 through 12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hurst '887 including the MAMMOS discs as taught by Verschuren '994 in order to perform the readout parameter control for a larger variety of disc types.

10. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verschuren, US Patent 6,809,994 in view of Heegard, C D, et al, "Variable-Length State Splitting with Applications to Average Runlength-



Art Unit: 2627

Constrained (ARC) Codes", IEEE Transactions on Information Theory, vol. 37, no. 3, 1 May 1991.

Regarding claim 14, Verschuren '994 discloses a magneto-optical record carrier comprising a storage layer and a readout layer, wherein an expanded domain leading to a pulse in a reading signal is generated in said readout layer by copying of a mark region from said storage layer to said readout layer upon radiation heating with the help of an external magnetic field (column 1, lines 6 through 52).

Verschuren '994 fails to disclose wherein a runlength constraint is applied to at least one of the following quantities: mark regions and space regions in said storage layer, said runlength constraint being selected to keep an accumulated runlength deviation from a predetermined average runlength within a predetermined range.

However, Heegard, 1 May 1991, discloses a runlength constraint is applied to at least one of the following quantities: mark regions and space regions in said storage layer, said runlength constraint being selected to keep an accumulated runlength deviation from a predetermined average runlength within a predetermined range (paragraph II.B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Verschuren '994 by providing the arrangement as taught by Heegard, 1 May 1991 in order to provide its desirable improved accuracy and speed feature which results in improved readout parameter control as is well known in the art.

Art Unit: 2627

Regarding claim 15, it is rejected under 103(a) as recited in claim 14 above where Verschuren '994 discloses said record carrier is a MAMMOS disc (column 1, lines 9 through 11).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENDA BERNARDI whose telephone number is (571)270-7125. The examiner can normally be reached on 5:30 to 2:00 M thru F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRENDA BERNARDI/  
Examiner, Art Unit 2627

/Thang V. Tran/  
Primary Examiner, Art Unit 2627